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Book Reviews

BIGFOOT EXPOSED: AN ANTHROPOLOGIST EXAMINES AMERICA'S ENDURING LEGEND. By David J. Daegling. Walnut Creek, CA: AltaMira Press. 2005. 275 pp. ISBN 0-7591-0539-1. $24.95 (paper).

SASQUATCH: LEGEND MEETS SCIENCE. By Jeff Meldrum. New York: Tom Doherty. 2006. 299 pp. ISBN 0-565-31216-6. $27.95 (hardcover).

It's hard to demonstrate that something doesn't exist. Some philosophers insist that it can't be done. Ludwig Wittgenstein said as much in a lecture once, whereupon Bertrand Russell tried to persuade him that there was no hippopotamus in the room. "I looked under all the desks without finding one," complained Russell, "but he remained unconvinced" (B. Russell [1951] Ludwig Wittgenstein. *Mind* n.s. 60: 297–98).

Is there a three-meter-tall species of apelike biped—the sasquatch or Bigfoot—lurking in the forests of the Pacific Northwest? Nobody has ever fetched home a cadaver or a skeleton or even a tooth of a sasquatch. But unlike Russell's hippopotamus, the sasquatch leaves tangible traces behind in the form of footprints, sitzmarks, and movie film. In these two books for a general audience, Jeff Meldrum and David Daegling lay out their respective cases for and against accepting those traces as evidence of an undiscovered giant primate in the northern woods.

Both authors agree on two points: a lot of Bigfoot traces have been found and some of them are frauds. Daegling wants to persuade us that they are all fraudulent and that Bigfoot is a socially constructed myth given bogus substance by hallucinations and hoaxes. He has accordingly written a book centered on cultural themes and the acts and motives of people. Meldrum wants to convince us that most of the footprints, photos, and so on are authentic, and so he has written a book centered on biology and forensics. As a result, most physical anthropologists will probably be more interested in Meldrum's subject matter. But I suspect most of us will be more swayed by Daegling's arguments.

Meldrum begins with the story of his own sasquatch encounters, during which fellow enthusiasts took him into the back country to witness fresh tracks, strange sounds in the night, and rocks hurled from the bushes by unseen creatures. Bigfoot or pulled leg? Meldrum is sensitive to both possibilities, but he leans heavily toward the former. To get the issue of fraud out of the way, he devotes an early chapter to two self-confessed hoaxers: Rant Mullens, who started faking Bigfoot prints as a young forest ranger back in 1928, and Ray Wallace, who ran the construction site where 14-inch footprints were found in 1958, leading to the coining of the name Bigfoot. Meldrum shows that at least some of the ersatz footprints planted by these two were transparently phony and that some other tracks are less easily dismissed as artifacts. He retells the tales of big hairy bipeds in the woods told by Native Americans and early white settlers, and notes the recent discoveries of other large mammals that had escaped the attention of scientists. Most of Meldrum's book is devoted to a forensic examination of the supposed evidence for the reality of Bigfoot. This evidence consists mainly of casts of footprints, but also includes prints of other parts of the body, some blurry photographs, and a few home movies, culminating in the celebrated Patterson–Gimlin film that shows a furry, heavyset humanoid with a gorilla-like head walking off into the bushes.

Meldrum is convinced that most of this evidence is legitimate. His argument runs something like this: most of the supposed sasquatch traces could not have been left by humans, bears, elk, or other known animals. At least some of the footprints show anatomical features (such as dermatoglyphic ridges and a chimpanzee-like midtarsal break) that are too subtle and technical to have been generated by inexpert lay pranksters. Likewise, the creature in the Patterson–Gimlin film is too apelike in its body proportions and locomotion, and too realistic in its surface anatomy, to be a man wearing an ape costume. Meldrum concludes from all this that it is reasonable to think that the sasquatch may be a real animal and that searching for it is a respectable scientific enterprise.

Meldrum (like the late Grover Krantz) suspects that the sasquatch is a descendant of the horse-sized Miocene primate *Gigantopithecus*, which survived into the Pleistocene in Southeast Asia and might have entered North America during a Pleistocene interglacial. The trouble with this account is that *Gigantopithecus* was not a hominin and maybe not even a crown-group hominoid; yet the physical evidence implies that today's Bigfoot is an upright biped with buttocks and a long, stout, permanently adducted hallux. These are hominin autapomorphies, not found in other mammals or other bipeds. It seems unlikely that *Gigantopithecus* would have evolved these uniquely hominin traits in parallel. If Bigfoot exists, it is surely a hominin. And because the Bigfoot in the Patterson–Gimlin film walks with flexed knees, like a bipedal chimpanzee, the logical conclusion from all this is that it is either a non-*Homo* hominin—a surviving australopithecine—or else a costumed human trying to walk like a bipedal chimpanzee. Taking the physical evidence at face value thus suggests that Pleistocene australopithecines managed to outrace *Homo* to the New World. Maybe so. But in the absence of a sasquatch specimen or an australopithecine fossil anywhere outside of Africa, that proposition is going to be a hard sell.

More tightly organized and closely reasoned than Meldrum's book, Daegling's attack on the Bigfoot legend is for the most part a model of scrupulous scientific argument. Daegling examines the evidence bearing on the natural history of the sasquatch and concludes that there is no theoretical reason why such a creature could not exist and make a living in the forests of the American Northwest. Skeptics who deny the reality of Bigfoot are therefore obliged to explain away all the purported sightings and traces. Daegling accordingly devotes most of his book to showing that the sightings could have been mistaken and that the traces could have been misinterpreted or faked. His dissection of the spoors, traces, and photos of Bigfoot examines the supposed evidence in its social and human context, and reveals a number of discreditable facts that Meldrum omits or glosses over. These facts include the sorry history of the fraudulent "*Homo pongoides*" cadaver published by the eminent cryptozoologist Bernard Heuvelmans; the financial shenanigans surrounding the "Cripplefoot" prints (of a

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deformed sasquatch foot) found at Bossburg, Washington; and the widespread conviction among many leading Bigfoot advocates that the late Paul Freeman (the most successful of all sasquatch hunters and one of Meldrum's prime sources) was faking his traces and photos. Daegling recounts the experimental inquiry that he and Dan Schmitt undertook on the Patterson–Gimlin film, which led them to conclude that it could easily have been just a dressed-up human. But they could not rule out the possibility that it might have been something else.

Sasquatch sightings and footprints have been reported from every state in the country except Rhode Island. This distribution is more suggestive of a myth than of a mammal. And yet Meldrum apparently takes it seriously. Describing the dermatoglyphics on some convincing sasquatch footprints, he notes in passing that they were found in Georgia. But he doesn't follow out the implications of that fact, which implies a pan-continental range for this elusive giant primate. Daegling narrates the journalistic, social, and economic history of another East Coast Bigfoot manifestation, the Bardin Booger from his own state of Florida. This apelike mythic creature serves the citizens of Putnam County as a sort of kachina—at once a tourist attraction, a bogeyman, and a ritual clown that performs at local events and offers up political commentary in the newspapers.

For Daegling, the fundamental question is this: why do people report encounters with an animal that doesn't exist? He proposes that Americans see sasquatches where there are none because Bigfoot functions in our culture as an "ecomessiah," a tutelary deity of the vanishing domain of wild nature. But as Daegling knows, hairy, bestial bipeds living in the wilderness are archetypal myths found all over the world. They recur throughout the history of Western art and literature (J.B. Friedman, *The Monstrous Races in Medieval Art and Thought* [1981]). The ancient Greeks knew of them as *gorillai* (a word later applied to the real African ape), medieval Englishmen called them *wodewoses*, and we call them sasquatches. To me, the wide and deep distribution of the archetype of the Wild Man of the Woods suggests that something more fundamental is going on here. Perhaps, like Swift's Yahoos, the Wild Man is a kind of unscientific refraction of the facts of primatology: a signal to us and our children that without our culture and traditions, humans would be little more than a species of big, bipedal monkey.

For Daegling and most other physical anthropologists, the sasquatch is an amusing and intriguing legend, which deserves to be neither dismissed out of hand nor taken very seriously. If somebody brings in a specimen, we will all be eager to look at it; but until then, we have little interest in spending our lives sifting through a mountain of balderdash to see if it contains any nuggets of truth. This attitude drives Meldrum crazy. Throughout his book, he complains indignantly about his lazy colleagues who "are content to remain aloof [and] . . . passively challenge, 'Show me the body'" (p. 44). But what else are we supposed to do? Many of the supposed Bigfoot traces are clearly hoaxes. Others might be genuine, but none of them is beyond the scope of ingenious trickery. The only way to settle the issue is to show us a specimen. Nothing less will do, because footprints, photos, and video can always be faked to whatever degree of precision it takes to gull the experts. As Daegling observes, experts think they are too expert to be fooled, and so they are easy to fool. This is especially true if the pranksters are themselves experts or are clever enough to pick up some expertise from the literature. Remember Piltdown?

What Meldrum chiefly wants, I think, is not that we accept the reality of Bigfoot or compete in the search for the type specimen, but that we honor his own commitment to that search as a legitimate scientific enterprise. I think we owe him that. If the chances that Bigfoot is real are (say) 10,000 to 1 against, having one physical anthropologist devoting half his life to searching for it is roughly an appropriate allocation of our profession's resources. Meldrum deserves to be criticized dispassionately and offered sincere advice, and not to be covered in the sort of scorn and abuse that has been hurled in his direction by some of his colleagues at Idaho State (*Chronicle of Higher Education*, August 4, 2006, A44). For my part, I'm happy to see him out there in the North Woods on the trail of the sasquatch. I hope he finds one. But I feel mortally certain that he won't, and that he is wasting his professional life in the search. We may be obliged to respect his decision to do that, but we are not obliged to follow his example.

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Primates and Philosophers: How Morality Evolved. By Frans de Waal. Edited by Stephen Macedo and Josiah Ober. Princeton, NJ: Princeton University Press. 2006 209 pp. ISBN 0-691-12447-7. $22.95 (hardcover).

One would typically expect that the evolution of morality in humans and nonhuman primates is a line of inquiry beyond the bounds of science and best suited to philosophical debate. And yet Frans de Waal in *Primates and Philosophers: How Morality Evolved* succeeds in placing the topic firmly within the realm of scientific investigation. This book reprints the text of the 2004 Tanner Lecture on the evolution of morality in nonhuman primates and humans delivered by Frans de Waal at Princeton University's Center for Human Values. This is the principal topic of the book and forms the foundation of much of the printed discourse that follows. There are additional sections authored by de Waal on anthropomorphism, the theory of mind in apes, and animal rights. de Waal's contributions are followed by a series of commentaries by Robert Wright, Christine M. Korsgaard, Philip Kitcher, and Peter Singer, all philosophers